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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,568	05/26/2006	Noriharu Suematsu	1163-0568PUS1	5549
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EXAMINER TIMORY, KABIR A				
ART UNIT 2611		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/580,568

Applicant(s)

SUEMATSU ET AL.

Examiner

KABIR A. TIMORY

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. This office action is in response to the amendment filed on 08/31/2009. Claims 1-23 are pending in this application and have been considered below.
2. Applicant's arguments with respect to claims 1, 3, 7, 11, 13, 19, and 23 have been considered but are moot in view of new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-2, 7-14, and 19-23 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(1) In claim 1 recites a limitation **“an amplifier for amplifying a selected one of the radio frequency signal oscillated by said radio frequency signal oscillator and the pulse signal output from said modulator”** in lines 7-9. It is unclear whether the amplifier is amplifying the radio frequency signal and/or the pulse signal. The examiner is suggesting clarifying the limitation in the claim by changing the limitation to **“an amplifier for amplifying the radio frequency signal oscillated by said radio**

frequency signal oscillator or the pulse signal output from said modulator”.

However, the examiner is interpreting that the amplifier is “amplifying the radio frequency signal oscillated by said radio frequency signal oscillator or the pulse signal output from said modulator”.

(2) In claim 1 recites a limitation **“said amplifier amplifies the selected one of the radio frequency signal and the pulse signal”** in lines 17-18. It is unclear whether the amplifier is amplifying the radio frequency signal and/or the pulse signal. The examiner is suggesting clarifying the limitation in the claim by changing the limitation to **“said amplifier amplifies the radio frequency signal or the pulse signal”**.

However, the examiner is interpreting that the amplifier is “amplifies the radio frequency signal or the pulse signal”.

(3) In claim 7 recites a limitation **“a transmitting device for selectively transmitting one of the pulse signal amplified by said first amplifier and the pulse signal amplified by said second amplifier to an external device”** in lines 11-13. It is unclear whether the transmitting device is transmitting **“the pulse signal amplified by said first amplifier and/or the pulse signal amplified by said second amplifier”**.

The examiner is suggesting clarifying the limitation in the claim by changing the limitation to **“a transmitting device transmitting the pulse signal amplified by said first amplifier or the pulse signal amplified by said second amplifier to an external device”**. However, the examiner is interpreting that the transmitting device transmitting

the pulse signal amplified by said first amplifier or the pulse signal amplified by said second amplifier to an external device.

(4) In claim 11 recites a limitation **“transmitting and receiving device for selectively transmitting one of the pulse signal amplified by said first amplifier and the pulse signal amplified by said second amplifier to external noncontact wireless communication”** in lines 11-13. It is unclear whether the transmitting device is transmitting **“the pulse signal amplified by said first amplifier and/or the pulse signal amplified by said second amplifier”**. The examiner is suggesting clarifying the limitation in the claim by changing the limitation to **“transmitting and receiving device for transmitting one of the pulse signal amplified by said first amplifier or the pulse signal amplified by said second amplifier to external noncontact wireless communication”**. However, the examiner is interpreting that the transmitting device transmitting the pulse signal amplified by said first amplifier and/or the pulse signal amplified by said second amplifier.

(5) In claim 13 recites a limitation **“selecting one of said radio frequency signal and the pulse signal”** in line 3. It is unclear whether the selecting refers to **“selecting one of said radio frequency signal and/or the pulse signal”**. The examiner is suggesting clarifying the limitation in the claim by changing the limitation to **“selecting said radio frequency signal or the pulse signal”**. However, the examiner is interpreting selecting said radio frequency signal or the pulse signal.

(6) In claim 13 recites a limitation **“amplifying the selected one of the pulse signal and the radio frequency signal to produce an amplified signal”** in lines 8-9. It is unclear whether **“amplifying the selected one of the pulse signal and/or the radio frequency signal to produce an amplified signal”**. The examiner is suggesting clarifying the limitation in the claim by changing the limitation to **“amplifying the pulse signal or the radio frequency signal to produce an amplified signal”**. However, the examiner is interpreting amplifying the pulse signal or the radio frequency signal to produce an amplified signal.

(7) In claim 19 recites a limitation **“selectively transmitting one of the pulse signal amplified by the first amplifier and the pulse signal amplified by the second amplifier to an external apparatus”** in lines 8-10. It is unclear whether **“selectively transmitting one of the pulse signal amplified by the first amplifier and/or the pulse signal amplified by the second amplifier to an external apparatus”**. The examiner is suggesting clarifying the limitation in the claim by changing the limitation to **“transmitting one of the pulse signal amplified by the first amplifier or the pulse signal amplified by the second amplifier to an external apparatus”**. However, the examiner is interpreting transmitting one of the pulse signal amplified by the first amplifier or the pulse signal amplified by the second amplifier to an external apparatus.

(8) In claim 23 recites a limitation **“selectively transmitting one of the pulse signal amplified by the first amplifier and the pulse signal amplified the second**

amplifier to external noncontact wireless communication equipment” in lines 8-10.

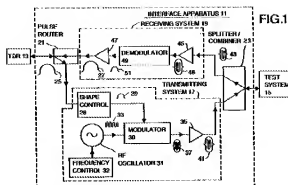
It is unclear whether “**selectively transmitting one of the pulse signal amplified by the first amplifier and/or the pulse signal amplified the second amplifier to external noncontact wireless communication equipment”**. The examiner is suggesting clarifying the limitation in the claim by changing the limitation to “**transmitting the pulse signal amplified by the first amplifier or the pulse signal amplified the second amplifier to external noncontact wireless communication equipment”**. However, the examiner is interpreting transmitting the pulse signal amplified by the first amplifier or the pulse signal amplified the second amplifier to external noncontact wireless communication equipment.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1-2 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oberg et al. (US 5751149) in view of Masuda et al. (US 6812785) and further in view of Wendt et al. (US 5194823).**



Regarding claims 1 and 13:

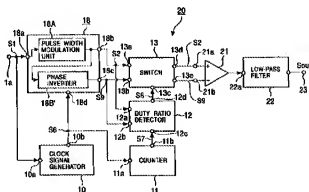
As shown in figures 1-3, Oberg et al. disclose a power supply apparatus comprising:

- radio frequency signal oscillator (31 in figure 1) for oscillating a radio frequency signal (col 3, lines 45-48);
 - modulator (30 in figure 1) for carrying out pulse modulation of the radio frequency signal oscillated by said radio frequency signal oscillator (31 in figure 1) , and for outputting a pulse signal (37 in figure 1, col 3, lines 47-55);
 - amplifier (35 in figure 1) for amplifying a selected one of the radio frequency signal oscillated by said radio frequency signal oscillator (31 in figure 1) and the pulse signal (37 in figure 1) output from said modulator (30 in figure 1, col 3, lines 47-55);
- and
- transmitter device (17 in figure 1) for transmitting the selected one of the radio frequency signal and the pulse signal (41 in figure 1) amplified by said amplifier (35 in figure 1, col 3, lines 47-67) to an external device (15 in figure 1); wherein
 - when the transmitted signal is to provide a power supply to the external device (15 in figure 1).

Oberg et al. disclose all of the subject matter as described above except for specifically teaching said radio frequency signal is selected for amplification by the amplifier when the transmitted signal is to provide a power supply to the external device, and said pulse signal is selected for amplification by the amplifier when the transmitted signal is to provide data to the external device.

However, Masuda et al. in the same field of endeavor teach said radio frequency signal (S6 in figure 5 below) is selected (see the switch 13 in figure 5 below) for amplification by the amplifier (21 in figure 5 below), and said pulse signal (S2 in figure 5 below) is selected for amplification by the amplifier (21 in figure 5 below).

FIG. 5



In figure 5 above Masuda et al. disclose a switch 13 in communication with clock signal generator 10 (interpreted to be radio frequency signal oscillator) and pulse width modulation unit 18A. The output of the switch is provided to the amplifier 21 to amplify either the signal at output 13d (coming from the pulse width modulator unit 18A) or the signal at output 13e (coming from the clock generator 10). In figure 1 above, Oberg et al. shows an RF oscillator 31 in communication with modulator 30 and amplifier 35. Therefore, it would have been obvious to one of ordinary skilled in the art at the time the

invention was made to use the switch as taught by Masuda et al. to modify the system and method of Oberg et al. in order to select one of the pulse or the RF signal for amplification.

Oberg et al. and Masuda et al. disclose all of the subject matter as described above except for specifically teaching wherein said amplifier amplifies the selected one of the radio frequency signal and the pulse signal in a manner that peak power of the radio frequency signal becomes greater than peak power of the pulse signal.

However, Wendt et al. in the same field of endeavor teach wherein said amplifier amplifies the selected one of the radio frequency signal and the pulse signal in a manner that peak power of the radio frequency signal becomes greater than peak power of the pulse signal (col 1, lines 6-12). Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to use the amplifier as taught by Wendt et al. to modify the system and method of Oberg et al. in order to provide amplify the RF signal to a high output power and the peak pulse to a desired value.

Regarding claims 2 and 14:

Oberg et al. further disclose wherein the radio frequency signal (33 in figure 1) oscillated from said radio frequency signal oscillator (31 in figure 1) is an unmodulated continuous wave (33 in figure 1) (figure 1 shows that the RF signal 33 is a continuous wave and unmodulated signal).

7. Claims 3-10 and 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oberg et al. in view of Wendt et al.

Regarding claims 3 and 15:

As shown in figures 1-3, Oberg et al. disclose a power supply apparatus comprising:

- a radio frequency signal oscillator (31 in figure 1) for oscillating a radio frequency signal (col 3, lines 45-48);
- a modulator (30 in figure 1) for carrying out pulse modulation of the radio frequency signal oscillated by said radio frequency signal oscillator (31 in figure 1), and for outputting a pulse signal (37 in figure 1, col 3, lines 47-55);
- an amplifier (35 in figure 1) for amplifying the pulse signal output (37 in figure 1) from said modulator (30 in figure 1); and
- a transmitting device (17 in figure 1) for transmitting the pulse signal (41 in figure 1) amplified by said amplifier (35 in figure 1) to an external device (15 in figure 1), wherein
- when said transmitting device (17 in figure 1) transmits a pulse signal (41 in figure 1) for providing a power supply to the external device (15 in figure 1), said modulator (30 in figure 1) increases a duty ratio of the pulse signal (35 and 37 in figure 1 col 3, lines 47-67).

Oberg et al. disclose all of the subject matter as described above except for specifically teaching and said amplifier increases an amplification factor of the pulse

signal to increase the peak power of the pulse signal, as compared with a case of transmitting a pulse signal for providing to transmission data.

However, Wendt et al. in the same field of endeavor teach and said amplifier increases an amplification factor of the pulse signal to increase the peak power of the pulse signal, as compared with a case of transmitting a pulse signal for providing to transmission data (col 1, lines 6-12). Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to use the amplifier as taught by Wendt et al. to modify the system and method of Oberg et al. in order to provide amplify the RF signal to a high output power and the peak pulse to a desired value.

Regarding claims 7 and 19:

As shown in figures 1-3, Oberg et al. disclose a power supply apparatus comprising:

- a radio frequency signal oscillator (31 in figure 1) for oscillating a radio frequency signal (col 3, lines 45-48);
- a modulator (30 in figure 1) for carrying out pulse modulation of the radio frequency signal (33 in figure 1) oscillated by said radio frequency signal oscillator (31 in figure 1), and for outputting a pulse signal (37 in figure 1, col 3, lines 47-55);
- a first amplifier (35 in figure 1) for amplifying the pulse signal (37 in figure 1) output from said modulator (30 in figure 1); and
- a transmitting device (17 in figure 1) for selectively transmitting one of the the pulse signal (41 in figure 1) amplified by said first amplifier and (35 in figure 1) the pulse signal amplified by said second amplifier (col 3, lines 47-55).

Oberg et al. disclose all of the subject matter as described above except for specifically teaching second amplifier for amplifying the pulse signal amplified by said first amplifier; wherein said modulator makes a duty ratio of the pulse signal greater when said transmitting device transmits the pulse signal amplified by said second amplifier than when said transmitting transmits the pulse signal amplified by said first amplifier.

However, Wendt et al. in the same field of endeavor teach second amplifier (2 in figure 4) for amplifying the pulse signal amplified by said first amplifier (13 in figure 4); wherein said modulator makes a duty ratio of the pulse signal greater when said transmitting device transmits the pulse signal amplified by said second amplifier than when said transmitting transmits the pulse signal amplified by said first amplifier (abstract, col 1, lines 6-12). Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to use the amplifier as taught by Wendt et al. to modify the system and method of Oberg et al. in order to provide amplify the RF signal to a high output power and the peak pulse to a desired value.

Regarding claims 4, 8, 16, and 20:

Oberg et al. further disclose wherein said modulator (30 in figure 1) carries out pulse modulation of the radio frequency signal (33 in figure 1), and outputs the pulse signal (37 in figure 1) for the power supply and the pulse signal corresponding to the transmission data alternately in time (col 3, lines 45-67, col 4, lines 1-4).

Regarding claims 5, 9, 17, and 21:

Oberg et al. further disclose wherein said modulator (30 in figure 1) outputs the pulse signal for the power supply at predetermined time interval (figures 2a and 3a) after the pulse signal for the power supply is transmitted col 4, lines 25-37).

Regarding claims 6, 10, 18, and 22:

Oberg et al. further disclose wherein said modulator (30 in figure 1) modulates, instead of carrying out the pulse modulation of the radio frequency signal (col 3, lines 45-67).

Oberg et al. disclose all of the subject matter as described above except for specifically teaching the radio frequency signal using a digital modulation method of generating a modulation signal whose envelope varies.

However, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the modulator of Oberg et al. in order the radio frequency signal using a digital modulation method of generating a modulation signal whose envelope varies.

8. Claims 11 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oberg et al. in view of Wendt et al. and further in view of Richardson et al. (US 20040178944).

Regarding claims 11 and 23:

As shown in figures 1-3, Oberg et al. disclose a power supply apparatus comprising:

- a radio frequency signal oscillator (31 in figure 1) for oscillating a radio frequency signal (col 3, lines 45-48);
- a modulator (30 in figure 1) for carrying out pulse modulation of the radio frequency signal (33 in figure 1) oscillated by said radio frequency signal oscillator (31 in figure 1), and for outputting a pulse signal (37 in figure 1, col 3, lines 47-55);
- a first amplifier (35 in figure 1) for amplifying the pulse signal (37 in figure 1) output from said modulator (30 in figure 1);
- a transmitting (17 in figure 1) and receiving device (19 in figure 1) for transmitting the pulse signal (41 in figure 1) amplified by said first amplifier (35 in figure 1) and the pulse signal amplified by said second amplifier (col 3, lines 45-67), and for receiving a pulse signal (43 in figure 1); and
- a demodulator (49 in figure 1) for demodulating the pulse signal (43 and 48 in figure 1) received by said transmitting (17 in figure 1) and receiving device (19 in figure 1).

Oberg et al. disclose all of the subject matter as described above except for specifically teaching second amplifier for amplifying the pulse signal amplified by said first amplifier; wherein said modulator makes, when said transmitting and receiving device transmits the pulse signal amplified by said second amplifier, a duty ratio of the pulse signal greater than when said transmitting and receiving device transmits the pulse signal amplified by said first amplifier.

However, Wendt et al. in the same field of endeavor teach second amplifier (2 in figure 1) for amplifying the pulse signal amplified by said first amplifier (13 in figure 1); wherein said modulator makes, when said transmitting and receiving device transmits the pulse signal amplified by said second amplifier, a duty ratio of the pulse signal greater than when said transmitting and receiving device transmits the pulse signal amplified by said first amplifier (abstract, col 1, lines 6-12). Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to use the amplifier as taught by Wendt et al. to modify the system and method of Oberg et al. in order to provide amplify the RF signal to a high output power and the peak pulse to a desired value.

Oberg et al. and Wendt et al. disclose all of the subject matter as described above except for specifically teaching to external noncontact wireless communication equipment; transmitted from said external noncontact wireless communication equipment.

However, Richardson et al. in the same field of endeavor teach to external noncontact wireless communication (RFID and Tag system is interpreted to be the noncontact wireless communication) equipment (figures 1 and 2); transmitted from said external noncontact wireless communication equipment (figures 1 and 2, abstract, par 0004, 0035). Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to use the RFID and Tag system as taught by Richardson et al. to modify the system and method of Oberg et al. in order to provide wireless communication such as radar transmission between the interrogator and transponder.

Allowable Subject Matter

9. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and to overcome the rejection under 35 USC 112 2nd paragraph.

10. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record, Oberg et al. does not teach or suggest a switch that is brought to an OFF state when said circulator supplies said antenna with the pulse signal amplified by said first or second amplifying means, and that is brought to an ON state when said circulator supplies said demodulation means with the pulse signal received by said antenna, said switch being interposed between said circulator and said demodulation means.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KABIR A. TIMORY whose telephone number is (571)270-1674. The examiner can normally be reached on 6:30 AM - 3:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kabir A Timory/
Examiner, Art Unit 2611
/Shuwang Liu/
Supervisory Patent Examiner, Art Unit 2611